



North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

Don Van der Vaart  
Secretary

March 12, 2015

Mr. Christopher J. Ward, PG  
ESP Associates, P.A.  
PO Box 7030  
Charlotte, NC 28241

Re: RFP for Task Orders 7961DP-7 and 7961DP-8  
Monitoring of groundwater and subsurface landfill gas at existing monitoring wells  
Henderson Co. Landfill  
Hendersonville, Henderson County, NC  
ID # NCD980557961

Dear Mr. Ward:

Submit a task work plan and cost estimate to perform remedial investigation-contaminant delineation phase activities at the above referenced site. Conduct these activities in accordance with your State Contract N13001S.

**Investigation Goals:** To conduct the following-up monitoring of subsurface landfill Gas and groundwater at the site.

**Scope of work for Task Order 7961DP-7A:**

- Prepare a work plan in accordance with **ESP** approved standard operating procedures of **February 1, 2013**, and include a schedule of daily activities.
- Submit an itemized cost estimate that identifies personnel and materials involved.
- Reference the most recent Guidelines for Addressing Pre-Regulatory Landfills and Dumps for details regarding procedures.
- Ensure personnel in the field are qualified to identify contaminated material and landfill waste and comply with OSHA-required health and safety training.
- Include background (light grey) topographic contour lines on figures detailing the Site and Site vicinity.
- Submit samples to a North Carolina-certified laboratory and analyze for the following parameters by the most current U.S. EPA Contract Laboratory Program Target Compound List: volatile organic compounds by SW-846 method 8260, 1,4-dioxane by Method 8260SIM, semi-volatile organic compounds by SW-846 method 8270, 14 metals by SW-846 method 6020, mercury by method 7471, ammonia by SM 4500, nitrate and sulfate by EPA Method 300. Please note that any alternate method should be the U.S. EPA Method having the lowest detection limit and that at least achieves the detections equivalent to the 15A NCAC 2L standards or where these are not available, then federal maximum contaminant limits (MCLs).
- Note: once all contaminants are determined, laboratory analysis may be reduced to those positively identified contaminants.

**Task Order 7961DP-7B: Installation and Monitoring of Groundwater:**

- a) Install **4 permanent** groundwater monitoring wells, collect and analyze groundwater samples from the 4 monitoring wells and from the 3 existing Henderson County groundwater monitoring wells as shown in **Appendix**. Depth to groundwater is estimated between 12 and 33 feet bgs. Hollow stem augers may be required to advance the borings. Well installation (for the 4 new wells) must comply with the most current 15A NCAC 2C well construction standards. Construct wells with stick-up covers.
- b) Log each boring in the field. Boring log information will include but is not limited to; top of ground elevation, detailed soil description and lithology at depths, depth of groundwater observed during drilling, notable reaction of drill rig during advancement, depth of competent rock encountered, detailed notes/remarks, and a well construction diagram.
- c) Determine ground water elevation for each well and collect water level measurements using all available groundwater wells.
- d) Collect one groundwater sample from each well to submit for laboratory analysis.

**Task Order 653DP-9C: Monitoring of Subsurface Landfill Gas:**

- a) Collect subsurface landfill gas samples from **8** existing permanent landfill gas monitoring wells as shown on **Appendix 2**, where **GP-1, 2, 4, 5 & 6** refer to the previous landfill gas monitoring wells in Task Order **808DP-3**, where LFG-101, -102, & -103 refer to the landfill gas monitoring wells installed and maintained by the County of Henderson.
- b) Using field instruments, screen the landfill gas probes for volatile organic compounds (VOCs), methane, oxygen, carbon dioxide, barometric pressure and hydrogen sulfide.

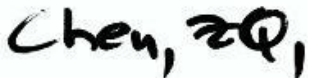
**Task Order 7961DP-8:**

Assemble a report under Task Order 7961DP-8. Name the report: “*Remedial Investigation: April 2015--- Groundwater and Subsurface Landfill Gas Monitoring*” that provides the information in and results of the activities. Upon review and approval of the cost proposal, a task authorization to proceed will be issued. Please note that the report should contain the following items:

- a). A section concerning any variations from the work plan or your SOPs.
- b). Sample analytical results tables indicating BDL or ND for non-detects. Present results to match the lab report.

Provide the work plan and cost estimate in seven (7) days after receiving this request. A task authorization to begin work will be provided once my review is completed. Please call me at (919) 707-8347 with any questions regarding this request.

Sincerely,

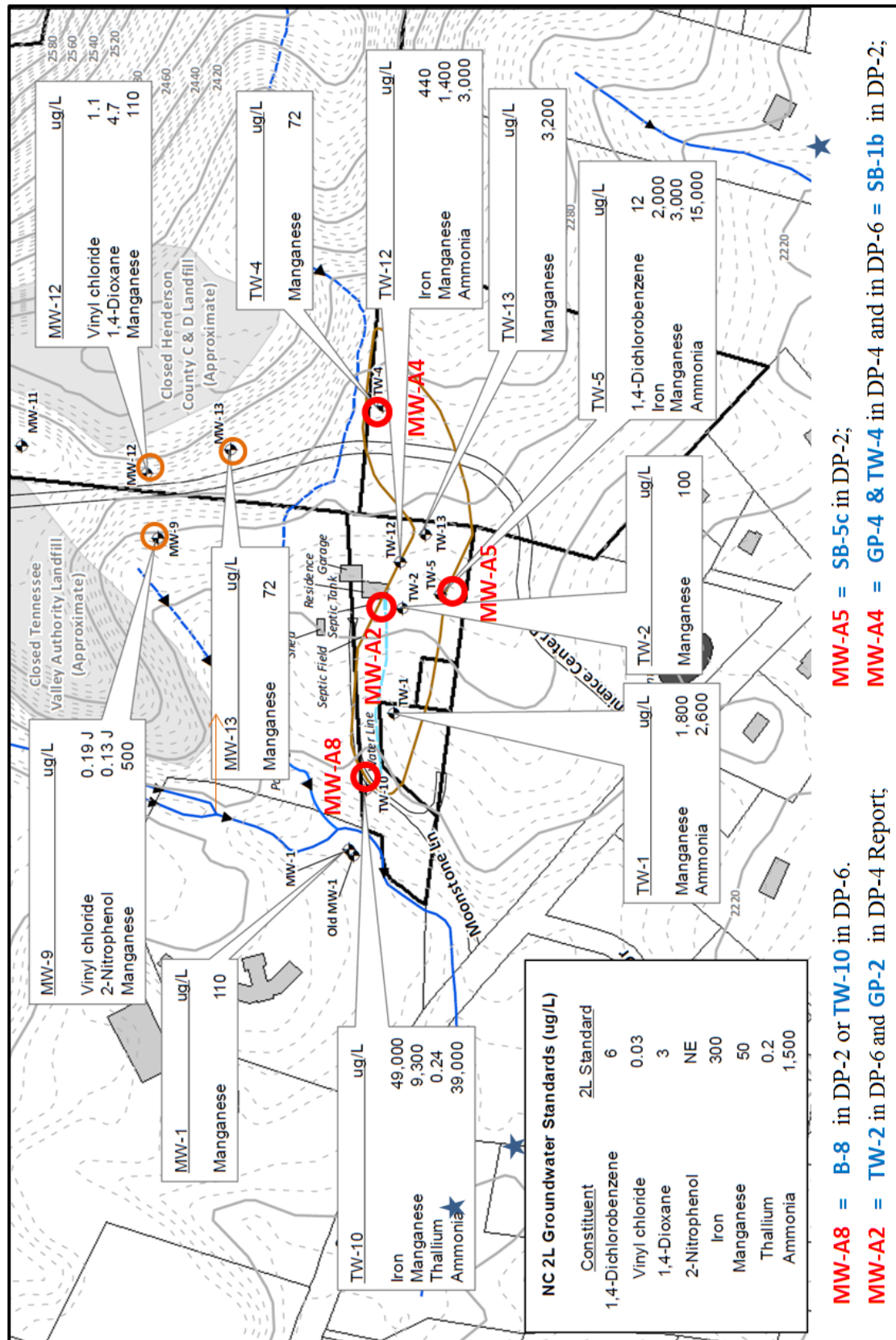


Zi-Qiang Chen, PhD, Environmental Engineer II  
Division of Waste Management, NCDENR

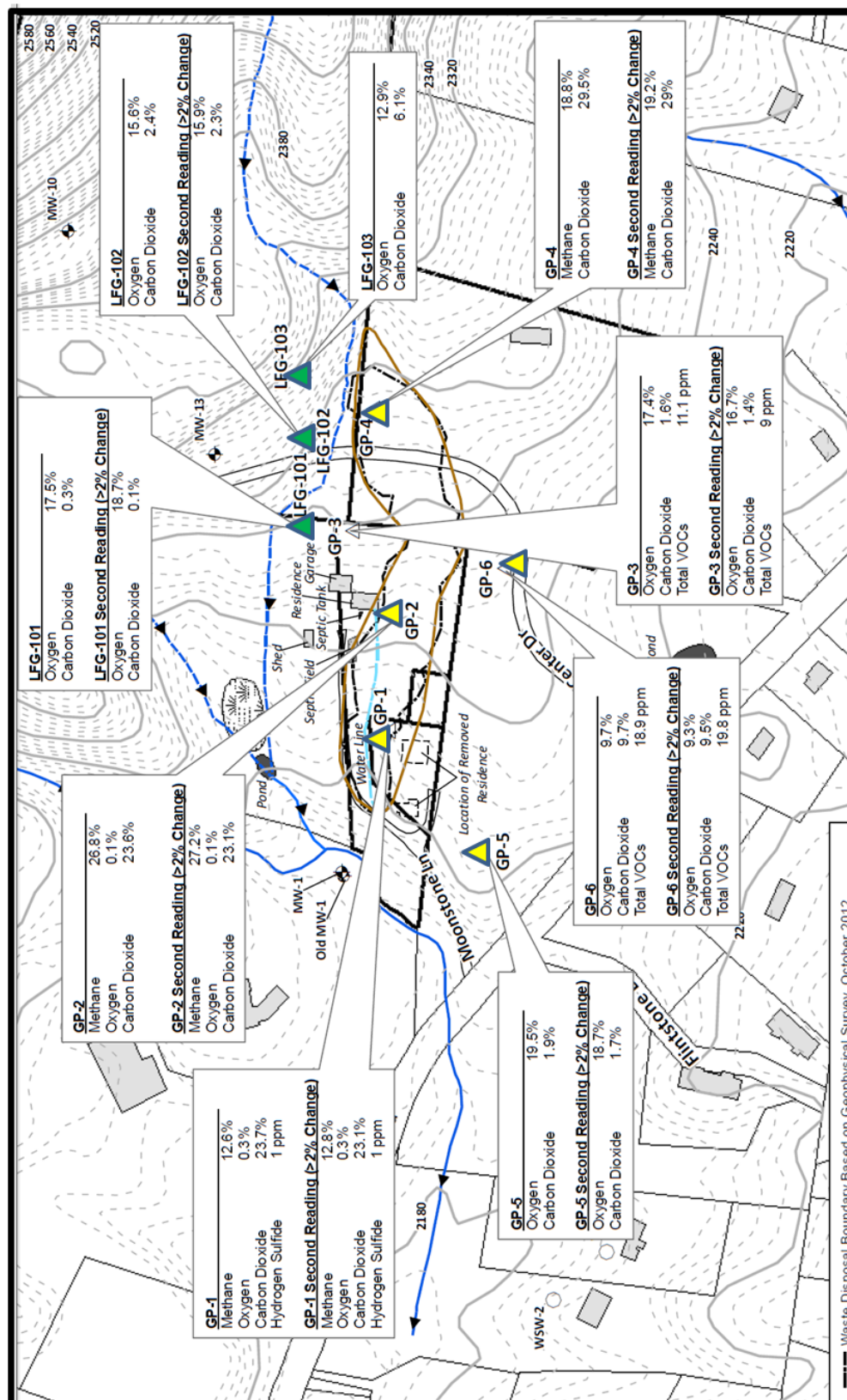
MW-9  
MW-12  
MW-13

Henderson County groundwater monitoring wells .

MW-A4 groundwater sampling location



## Henderson County's subsurface gas monitoring locations



Waste Disposal Boundary Based on Geophysical Survey, October 2012